Virginia City Hybrid Energy Center
Response to Data Request
Vivian Thomson, Vice Chair, Virginia Air Pollution Control Board

Question (Page No. 5):

It appears that Wise County's political leaders believe that Dominion has committed to controlling the greenhouse gas emissions from this facility. The Wise County Board of Supervisors resolution supporting the VCHEC, which was adopted 11 January 2008, says that "Dominion has committed to utilize Carbon Capture Capable (CCC) equipment on the proposed facility to limit and reduce Green House Gases (GHG) thereby either eliminating or reducing the 'carbon footprint' of the state-of-the-art Virginia City Hybrid Energy Center. . . .Be it further resolved that the Virginia City Hybrid Energy Center be used as a World Model of how CCC power plants can be developed in the 21st century to make significant impacts upon the reduction of GHG emissions, thereby allowing this technology to be exported elsewhere and retrofitted upon existing coal-fired power plants already in operation" (Wise County Board of Supervisors 2008).

Response:

Listed below are excerpts from Virginia Electric and Power Company documents and testimony submitted to the State Corporation Commission, Case No. PUE-2007-00066 supporting the March 31, 2008 Final Order granting a Certificate of Public Convenience and Necessity for the Virginia City Hybrid Energy Center in Wise County, Virginia regarding Dominion's public commitment to Carbon Capture and Sequestration when it becomes technologically and economically feasible to do so.

Excerpts from Virginia Electric & Power Co. - Application for Approval, Certification & Rate Adjustment. Under SECS 56-585.1, 56-280.D, & 56-46.1 Of Code of VA With Regard To Carbon Capture Compatible, Clean-Coal Powered Electric Generation Facility filed July 13, 2007, State Corporation Commission Case No. PUE-2007-00066.

- The Plant will also be built so that it is compatible with carbon capture technology whenever such technology becomes commercially available in the future, and our site in Wise County has been designed to accommodate future installation of such equipment. No such technology is currently available, as the Legislation reflects, since the applicable code provision requires only that the Plant be "carbon capture compatible," not that it currently utilize carbon capture processes, to qualify for the enhanced rate of return adder of 200 basis points. The Company will also commit to making an investment for the necessary facilities for carbon capture when it becomes technologically and economically feasible to do so.

- To this end, the Company is partnering with the Virginia Center for Coal and Energy Research at Virginia Tech to demonstrate large-scale carbon sequestration in nearby coal seams.

- Carbon capture technology is not commercially viable or available at the present time. Furthermore, the successful integration of all of the technologies needed for a commercial-scale carbon capture and sequestration system has yet even to be demonstrated. As a result, it is not currently feasible to construct a power plant with technology that can capture and store carbon emissions. The Company has taken steps to make the Plant highly efficient and compatible with anticipated, future carbon capture technology. The Virginia City Site has adequate space for the future deployment of such technology. The Plant design has a designated area of sufficient size based on conceptual carbon capture equipment to allow the flue gases to be processed for carbon capture. In addition, the Plant is located in a region which is being studied by others as a viable location for future carbon sequestration. The Company is part of a consortium testing the viability of carbon storage at locations in Southwest Virginia. This study is being led by Dr. Michael Karmis of Virginia Tech. The Department of Energy is considering an application from the consortium for a Southwest Virginia test site.

- Question. Will the Company retrofit the Plant with carbon capture equipment at a future date when such equipment becomes available?

- Answer. Yes, assuming the technology, as ultimately developed, is commercially viable and recovery of the cost is approved by the Commission. To this end, the Company plans to study candidate technologies that might be suitable for use with the Plant.

Excerpts from 12/19/2007 Rebuttal Testimony of James K. Martin, State Corporation Commission, Case No. PUE-2007-00066

- There is physical compatibility - adequate space. Dominion Virginia Power has allocated land space for future installation of carbon capture technology at the Project site. An approximately 14-acre area allowance for a C02 capture facility has been reserved in the layout of the Project. This is similar to the approach the State of Nevada is taking in pursuing carbon capture compatible coal plants in that state. For example, the State of Nevada - Department of Conservation & Natural Resources, Division of Environmental Protection ("NDEP") recently entered into a memorandum of understanding with White Pine Energy Associates, LLC (the "Nevada MOU") which, among other things, seeks a commitment to make a future 1,590 MW supercritical coal plant "carbon capture ready." The Nevada MOU notes that carbon capture technology for coal plants has not yet been demonstrated on a large scale and is not yet commercially available, so the State recognized that no technology or method could be specified at this time and

instead sought design features that would help allow such a facility be retrofitted as carbon capture compatible in the future. The Nevada MOU also specifically notes the company is to set aside approximately 7 acres of land for each 800 MW boiler in the vicinity of the boilers and stacks to allow for the design, installation and operation of future C02 capture equipment.

- Shaw's design engineers have confirmed that the Plant as currently specified will be compatible with future duct work, pipe racks, C02 compressors, C02 scrubbers, heat exchangers, and transfer storage vessels potentially needed for carbon capture and storage and that no aspect of the design will preclude incorporation of carbon capture equipment in the future. Shaw has also indicated that the current Plant design is capable of accommodating future C02 capture facilities, which include future provisions for flue duct connections, electrical power distributions, steam supply and utility supply systems. These too are features the NDEP was looking for in its Nevada MOU, for example, "that ducting can be configured and constructed to divert exhaust gases to a C02 capture system."

- The Company is closely involved with others in developing workable systems. Dominion Virginia Power is a corporate partner in the Southeast Regional Carbon Sequestration Partnership ("SECARB"), which is one of seven partnerships created by the DOE to help determine the best approaches for capturing and storing carbon dioxide. Dominion is also supporting the Midwest Carbon Sequestration Partnership. The Company is also actively involved with the Edison Electric Institute work group that is studying carbon capture and storage issues.

- The Plant is highly compatible, perhaps uniquely so, with the potential storage of carbon in unmineable coal seams. This compatibility is described in the rebuttal testimony of Dr. Michael Karmis, Stonie Barker Professor of the Department of Mining and Minerals Engineering and Director of the Virginia Center for Coal and Energy Research at Virginia Tech, who is an expert in carbon storage. As the Virginia Energy Plan notes, preliminary conclusions indicate that coal seams in the Central Appalachian Basin have significant sequestration potential. This region has some of the most promising potential sites for carbon storage and would substantially simplify the process of carbon transport and would enable effective carbon storage. Dominion Virginia Power is focusing closely on this activity, and on November 3, 2007, the Company announced its contribution of $500,000 to the Virginia Center for Coal and Energy Research at Virginia Tech. This contribution is to support the current on-going sequestration effort and tests in Russell County, in close proximity to the Project site and to support the planning of a large-volume carbon storage demonstration project in the southwest Virginia CBM-producing Counties of Wise, Dickenson, Buchanan and Russell surrounding the Project site. The Company's financial support makes it possible for Virginia Tech to qualify for substantial funding from DOE. This approach is also similar to that pursued in the Nevada MOU, where the developer is "encouraged" to "pool resources with the public, academic and/or private sector"

to advance research on C02 capture technology and increase the understanding of sequestration opportunities.

- Dominion is gaining hands-on experience with carbon capture. In October 2007, Dominion announced that it is hosting a large-scale coal gasification test facility and research center at its Brayton Point Power Station in Massachusetts. The test facility, owned by GreatPoint Energy, will produce pipeline-quality natural gas and a pure stream Of C02 as a byproduct of coal that could be captured for storage.

- Dominion Virginia Power has an active program of monitoring ongoing research and development activities for carbon capture and carbon storage technologies for applicability. Carbon capture technologies monitored include combustion (OxyFuel) and post-combustion processes (chilled ammonia process, amine absorption and algae bioreactor systems). An example of this monitoring program is attached hereto as Attachment JKM-9 which shows some of the ways the Company is tracking research, demonstrations and testing of carbon capture and sequestration processes. Carbon storage technologies monitored include (1) Natural Sequestration (e.g. ., terrestrial) and (2) Artificial Sequestration (e.g. ., geologic storage). Dominion Virginia Power is engaged in an ongoing dialogue with potential vendors that are active in research and development of carbon capture technology for its potential applicability to the Project.

State Corporation Commission Final Order dated March 31, 2008 on Application of Virginia Electric and Power Company For a Certificate of Public Convenience and Necessity to Construct and Operate an Electric Generation Facility in Wise County, Virginia, and for Approval of a Rate Adjustment Clause Under §§56-585.1, 56-580 D, and 56-46.1 of the Code of Virginia, Case No. PUE-2007-00066

- The finding of reasonableness and prudence herein does not extend to any costs associated with retrofitting, or other modifications to, the Coal Plant to make it carbon capture compatible. Accordingly, our approval herein is subject to the requirement that there shall be no recovery of any costs associated with future retrofitting, or other future modifications to, the Coal Plant to make it carbon capture compatible without prior approval by the Commission upon a properly filed application by the Company.

- The Company is not precluded from filing a new application at some point in the future requesting the Commission to find that the Coal Plant is "carbon capture compatible, clean-coal powered" pursuant to § 56-585.1.A.6 of the Code. In this regard, although the twelve years approved herein is clearly below the allowed maximum of twenty years, we further find (consistent with the Stipulation) that if the enhanced return is increased to 200 basis points upon a subsequent finding by the Commission that the Coal Plant is "carbon capture compatible, clean-coal powered," the 200 basis point adder shall only apply to the remainder of the first twelve years of the Coal Plants service life following such finding.